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ABSTRACT

While many studies have demonstrated the relatively successful performance implications of formalized goal-setting programs in organizations, these findings typically do not identify the specific factors behind such techniques which are largely responsible for their success. Toward this end, research relating to six factor-analytically derived attributes of employees' task goals is reviewed to ascertain which attributes are more consistently related to performance. The six "task goal attributes" are: (1) goal specificity, (2) participation in goal-setting, (3) feedback, (4) peer competition, (5) goal difficulty, and (6) goal acceptance. While goal specificity and goal acceptance were found to be most consistently related to performance, several intervening variables emerged which tended to affect significantly the impact of certain attributes on performance. The findings are discussed within a motivational framework and it is argued, based on the data, that performance under goal-setting conditions is a function of at least three important variables: the nature of the task goals, additional situational-environmental factors, and individual differences. (A 13-page bibliography is included.) (Author/BP)

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THE ROLE OF TASK GOAL ATTRIBUTES IN EMPLOYEE PERFORMANCE

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13. ABSTRACT

While many studies have demonstrated the relatively successful performance implications of formalized goal-setting programs in organizations, these findings typically do not identify the specific factors behind such techniques which are largely responsible for their success. Toward this end, research relating to six factor-analytically derived attributes of employees' task goals is reviewed to ascertain which attributes are more consistently related to performance. The six "task goal attributes" are: (a) goal specificity; (b) participation in goal-setting; (c) feedback; (d) peer competition; (e) goal difficulty; and (f) goal acceptance. While goal specificity and goal acceptance were found to be most consistently related to performance, several intervening variables emerged which tended to affect significantly the impact of certain attributes on performance. The findings are discussed within a motivational framework and it is argued, based on the data, that performance under goal-setting conditions is a function of at least three important variables: the nature of the task goals, additional situational-environmental factors, and individual differences.

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THE ROLE OF TASK GOAL ATTRIBUTES IN EMPLOYEE PERFORMANCE

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Organizational researchers and practicing managers have long been concerned with discovering methods for improving the effectiveness and efficiency of on-going organizations. The determination of organizational effectiveness has traditionally been seen as the extent to which an organization is successful in accomplishing its operative goals, while organizational efficiency is typically defined as the cost-benefit ratio incurred in pursuit of those goals (Barnard, 1938). Considerable theory exists on an abstract level concerning the nature of organizational goal formulation and goal attainment, particularly as it relates to the external environment (Cyert & March, 1963; Etzioni, 1964; Lawrence & Lorsch, 1967; March & Simon, 1958; Perrow, 1961, 1970; Simon, 1964; Thompson & McEwen, 1958). However, little attempt has been made empirically to understand how such broad-based objectives become translated into specific activities which can be carried out by the individual members of an organization; that is, our knowledge of the relationship between the pursuit of <u>organizational</u> goals and the required tasks of <u>individuals</u> appears lacking in several respects. What is needed is a clearer understanding of the factors which eventually go to determine how well an organization achieves its stated intentions.

It is the purpose of this paper to review systematically the relevant research dealing with the role played by task goals in employee performance. The findings of these investigations will be placed in the larger organizational context as they ultimately relate to the attainment of organization-wide goals. We first briefly consider the association between organizational goals and task goals. Next, we review the research relating various aspects of task goals to individual performance on the job. Finally, the role of task goals will be discussed within the theoretical context of an employee's motivational force to perform and how such performance relates to the larger issue of organizational effectiveness.

To begin with, it is important to consider, at least in theory, how the goals of an organization become translated into manageable tasks for employees to perform. A typical formalized goal-setting program designed to maximize organizational goal attainment, while simultaneously minimizing unnecessary expenditure of human resources, can be seen as proceeding on two levels. The first step in this (ideal) process would involve what March and Simon (1958) term a "means-ends analysis." Briefly defined, such an analysis represents an attempt on an organization-wide basis to refine operative goals (i.e., the real objectives or intentions of the organization) into operational (i.e., specific, manageable, and measurable) goals. This means-ends analysis, which would finally culminate in fairly

specific and tangible organizational goals, is generally horizontal in nature; that is, goal refinements typically would remain organization-wide, or at least department-wide, in scope and responsibility.

Next, a vehicle must be found to translate these organization-wide operational goals into smaller segments which are of sufficient size to be suitably managed by individuals or sub-groups in the organization. In other words, the second step in the process involves extending the means-ends chain vertically down through the various levels of the organization in such a way as to marshall organizational resources efficiently for goal-directed activities. When this sequential process becomes formalized into a goal-setting system where each member, or small group, has specific goals and time parameters for task accomplishment, it often goes under the rubric of "Management-By-Objectives," or MBO. The basic motivational assumption of such goal-setting programs is that effort--and consequently performance--is increased by providing individuals with clear targets toward which to direct their energies. Thus, search behavior is theoretically reduced, allowing for greater effort to be concentrated in a single direction. Such a system has as its major purpose, then, the maximization of organizational goal attainment through the efficient use of an organization's resources. In other words, the contribution of each member to organizational effectiveness is theoretically maximized.

It becomes clear from the foregoing discussion that the common denominator of such a goal-setting system is the individual "task goals" assigned to the various members of the organization. Task goals may be defined as relatively specific targets or orjectives which an employee (or a small group of employees) is responsible for accomplishing within a specified time period. Typically, task goals are tied to some form of systematic performance appraisal and review. Assuming that such goals have been set with reference to the larger organizational purpose, the degree to which these task goals are met (or not met) in large measure should determine the ultimate success or failure of an organization in meeting its overall objectives.

While formalized goal-setting programs had their beginnings among managerial and supervisory personnel, the techniques have more recently been applied to blue-collar workers. Myers (1970) argues that meaningful goals can provide a sense of purpose for almost any type of activity. He describes goals which potentially have maximum motivational value as those task goals which are influenced by the employee and which are visible, desirable, challenging, and attainable. Such goals are hypothesized to lead to the satisfaction of an individual's needs for growth, achievement, responsibility, recognition, affiliation, and security (1970:42). Thus, in theory, goal-setting techniques, such as those employed in MBO-type programs, should have a significant and beneficial impact not only upon performance but also

upon employee attitudes and need satisfaction. Unfortunately, much of this theory remains largely untested.

The books written on formalized goal-setting systems are legion in number (e.g., Batten, 1966; Beck & Hillmar, 1972; Drucker, 1954; Hughes, 1965; Koontz, 1971; E. Miller, 1968; Morrisey, 1970; Odiorne, 1965; Schleh, 1961; Valentine, 1966; Wikstrom, 1968). By and large, these works represent "how-to-do-it" manuals based primarily on anecdotal evidence and are often void of empirical support for the theories expounded. (A notable exception to this trend is a recent book by Carroll and Tosi [1973].) This situation leaves both the researcher and the organizational decision-maker in a position of either accepting the utility of goal-setting programs on face value or rejecting them out of hand due to an absence of supportive evidence. Neither of these positions appears desirable. In an attempt to resolve this dilemma, an effort will be made here to bring together in an integrated fashion the available research that does exist to provide a better understanding of the performance implications of various aspects of such systems.

Research on Task Goals and Performance

When the research on task goals is considered *in toto*, strong and consistent evidence emerges that the act of setting clear goals on an individual's job (as opposed to only broadly defining his areas of responsibility) does generally result in increased performance. Such findings have been demonstrated

both in the laboratory (Bryan & Locke, 1967a; Fryer, 1964; Mace, 1935) and in the field (French, Kay & Meyer, 1966; Humble, 1970a, 1970b; Lawrence & Smith, 1955; Meyer, Kay & French, 1965; Raia, 1965, 1966). However, knowing that goal-setting techniques are relatively successful does not explain why they work or what can be done to improve their effectiveness. A more complete picture of the nature of goal-setting may be obtained by studying the role played by various attributes of a goal-setting system as they relate to performance.

Toward this end, studies relating various "task goal attributes" to performance will be reviewed. A task goal attribute is defined here as a characteristic or dimension of an employee's task goals. While research has been carried out on numerous--and often overlapping--attributes, a recent study using factor analytic techniques (Steers, 1973) demonstrated the existence of five relatively autonomous attributes: (1) goal specificity; (2) participation in goal-setting; (3) feedback on goal progress; (4) peer competition for goal attainment; and (5) goal difficulty. In addition, we shall include "goal acceptance" here as a sixth attribute. While the goal acceptance dimension was not derived from the factor analytic study, recent research has pointed to its potential importance for employee performance under goal-setting conditions. The relevant research relating to each of these attributes will be analyzed separately.

Goal Specificity

Almost every job has attached to it certain ends toward which the holder of that job is expected to work. Such goals may be set forth as a result of custom, superior directives, individual initiatives, or other influencing factors. These goals may be implicit and largely unspecified quantitatively or qualitatively, or they may be quite explicit and detailed through the use of targets and quotas. We are concerned here with the relative advantage in terms of performance of setting forth clear, explicit goals toward which the job incumbent is to work.

The initial laboratory work on the impact of goal specificity on performance was carried out by Mace (1935). In this well-controlled experiment, Mace found that subjects assigned specific goals improved in performance across trial blocks at a much faster rate than subjects assigned less specific goals. Subsequent to this experiment, several similar findings have emerged from laboratory studies using such tasks as addition, perceptual speed, complex coordination activities, and memorization exercises (Bryan & Locke, 1967a; Eagle & Leiter, 1964; Locke, 1967b; Locke & Bryan, 1966a, 1966b, 1967).

In one particularly interesting study, Bryan and Locke (1967a) assigned subjects to either a "low motivation" or a "high motivation" group based on differences in performance ability and attitude ratings on addition tasks. The "low motivation" group

was then assigned highly specific task goals, while the "high motivation" group was told to "do your best." By the end of the second re-test, the "low motivation" group caught up with the "do your best" group in both performance and favorableness of attitudes toward the task. While measures of the criterion variables in this study may have been somewhat weak, such findings concerning the motivation of poorer performers do offer intriguing possibilities that warrant further exploration.

The general consensus of the laboratory findings, then, strongly indicates that setting specific goals can serve to focus attention and effort and lead to improved task performance, at least in the short run. Whether sustained results can be achieved over longer periods of time remains to be demonstrated. Miller (1965) found in a field study, for example, that goal-setting with respect to quality control had sustaining effects only when backed up by rewards and sanctions. Thus, closer analysis of the sustaining power of goal-setting appears in order. In addition, a possible problem with such laboratory studies lies in their questionable applicability to actual work settings. As pointed out by Campbell, Dunnette, Lawler and Weick (1970), the difference between solving addition problems in a laboratory setting and the behavior patterns of employees in a complex work environment may be great indeed. Because of such potential problems, it is appropriate to compare the empirical results of the relevant field experiments and studies

on goal specificity with those of the laboratory to determine whether such findings corroborate the above conclusions.

Three field experiments have been found which address themselves to this issue. Stedry and Kay (1964), assigned specific quantitative and qualitative production goals to one group of plant foremen, while telling a similar group of foremen to "do your best" to maximize quantity and quality of performance. Results tended to demonstrate that the experimental group performed significantly better than the control group. In a similar controlled field experimental design, French and associates found that when performance criticisms were translated into specific improvement goals during appraisal interviews, the percentage of goal attainment was over twice as high as when subjects received only criticisms and no specific goals (French et al., 1966; Meyer et al., 1965).

Raia (1965, 1966) studied plant-wide productivity effects following the installation of a formalized goal-setting program in a medium-sized manufacturing firm. No control group was used in this study, however; goal-setting production rates were compared against pre-goal-setting rates. During the initial 13 months following the specification of task goals, plant production increased by 18%. Following this initial study period, productivity, while still rising, began to taper off somewhat. This leveling off process could be explained by at least two factors. First, it is possible that, given the nature of the

technology involved, the plant was rapidly approaching its efficiency limits. Or, conversely, it is possible that the program failed to have sustaining power over long periods of time and lost much of its value as a motivational tool. Whatever the reason, it should be noted that the institution of clear and specific goals did, in fact, result in significantly increased production.

Finally, several field studies have been carried out among diverse populations comparing variations in goal specificity to employee performance. In general, fairly consistent findings emerged which indicated that increased specificity of task goals was positively related to increased employee effort (Steers, 1973) and to better performance on the job (Barrett, 1963; Cohen, 1959; Harrison, 1959; Likert, 1961; Steers, 1973). However, Mendleson (1967) and Carroll and Tosi (1970) found no such significant relation between specificity and performance, although Mendleson did find specificity significantly related to ratings of promotion readiness.

In general, then, the results of most of the field investigations coincide with those of the laboratory experiments cited above. Both strong and reasonably consistent evidence demonstrates that the act of providing subjects with clear and specific goals does generally tend to result in better performance than not providing such goals. However, while goal specificity appears to have beneficial performance implications,

its impact on employee attitudes may be somewhat mixed. Raven and Rietsema (1957) found in a laboratory experiment, for example, that the clear specification of goals was positively associated with greater goal commitment, increased feelings of work group cohesiveness, and increased interest in the task. However, in surveys of employees working under goal-setting programs, Tosi and Carroll (1968) and Raia (1965) both reported that large segments of the samples felt unduly constrained by the "excessive formal requirements" of the program. Thus, certain unintended attitudinal consequences may result from clarifying for the employee exactly what he is to do and how he is to do it. In other words, when goal specification is very highly developed, it may indeed represent a mixed blessing in the effective functioning of the organization.

Participation in Goal-Setting

The virtues of participative decision-making have long been heralded as a means not only of increasing organizational efficiency and goal attainment, but also of increasing employee involvement and job satisfaction (Likert, 1961, 1967; McGregor, 1957, 1960; Myers, 1966, 1970). It is therefore appropriate to review the empirical work directed toward this important topic as it concerns a goal-setting environment to assess the validity of such assertions. The question we wish to pose here, then, is whether allowing subordinates to participate in the determination of their own task goals results in increased performance. That

is, can participation be seen as an intervening variable in the goal-setting process that serves to enhance the likelihood of success? Vroom (1964) has argued that this is probably the case. In a review of several empirical studies of participative decision-making in general, he found evidence that performance improved as individuals were given an increasing voice in decisions affecting their jobs. This improvement was probably accounted for at least in part, Vroom concluded, by the increased degree of ego involvement which resulted from participation.

The degree to which participation specifically influences the relation between goal-setting and performance, however, remains to be determined. In a questionnaire survey of managers working under a formalized goal-setting program, Carroll and Tosi (1970) found no significant relationship between the perceived degree of participation allowed in goal-setting and subject perceptions of either increased goal-attainment or improved man-manager relations. Similarly, while French et al. (1966; also Meyer et al., 1965) found increased participation in goal-setting to be somewhat related to increased goal-attainment and improved man-manager relations, such relations were weak and generally not significant. A more powerful predictor of increased performance in this study was whether specific goals had been set at all (Meyer et al., 1965). It was the setting of specific task goals, then, more than participation therein, that was seen as leading most directly to improved performance. Supportive

evidence for such a conclusion can also be found in Lawrence and Smith (1955) and Sorcher (1967).

Where French et al., Lawrence and Smith, and Sorcher saw the act of goal-setting as a more dominant variable than the degree of participation in determining performance, Tomekovic (1962) and Lawler and Hackman (1969) arrived at the opposite conclusion. In a laboratory experiment, Tomekovíc systematically varied participation level and goal-setting and found that the joint treatment of participation and goal-setting did result in improved motivational force to perform. However, when goal-setting was used without participation (i.e., when subjects had little voice in goal determination), little improvement was found in motivational force measures.

Similar findings were demonstrated in a field experiment by Lawler and Hackman (1969); (see also Scheflen, Lawler & Hackman, 1971). The major purpose of this experiment was to determine whether employee participation in the development of incentive plans aimed at improving attendance would have any appreciable effect on attendance. Thus, good attendance was viewed here, somewhat indirectly, as a goal. In a carefully controlled design, the experimental groups were allowed to develop their own incentive plan. This plan was then imposed without modification on a second set of groups, while a control group received no incentive plan. It was found that only those groups which were allowed to participate in plan formulation

showed significantly improved attendance. The investigators speculated that participation helped to create a norm of good attendance. This conclusion was reinforced in a followup study (Scheflen et al., 1971) where the incentive plan was arbitrarily taken away from two of the original "participative" groups. Attendance in these groups immediately fell, while it remained high for the in-tact participative group.

It can be seen from this review that a definite contradiction exists in the literature regarding the performance implications of increased participation in goal-setting. Certain findings indicate that participation is more important for performance than the act of setting task goals, while other findings point to the opposite conclusion. The resolution of these contradictory findings may be found in the modifying effects that either personality factors or situation-environmental factors may have on the impact of participation. For example, French et al. (1966) pointed out that participation was strongly and positively related to performance only when subjects perceived a low level of threat and when they had a past history of high participation. When subjects perceived a high threat level or historically had a low participation, the allowance of participation had detrimental effects on performance. Similarly, Steers (1973) found in a study of managers working under a goal-setting system that participation was somewhat related to performance for the total sample ($r = .20$). However, when the subjects were dichotomized

based on need strengths, it was found that participation was significantly related to performance only for subjects rated low on need for achievement ($r = .41$, $p < .01$) and low on need for affiliation ($r = .32$, $p < .01$). No significant relation was found ($r = .05$, $r = .09$, respectively) between participation and performance for subjects rated high on these needs. Thus, based on these data, it appears as if no universal conclusion can be drawn regarding the effects of participation on performance. Situational and personality factors must apparently be taken into account in determining the performance implications of such participation.

Feedback on Goal Progress

Providing employees with feedback on performance can, according to Payne and Hauty (1955), serve at least two functions: (1) it can act as a directive, keeping goal-directed behavior "on course"; and (2) it can serve as an incentive, stimulating employees to greater effort. A thorough examination of the empirical evidence bearing on such a contention (particularly with respect to the second function mentioned above) was recently published by Locke, Cartledge and Koeppel (1968). While the reader is referred to Locke et al. for a comprehensive review, a summary of these findings will be presented here, followed by an analysis of several articles published since that review.

Locke et al. placed their review within the context of Locke's theory of goal-setting and concluded that "none of the

evidence [was found] to be inconsistent with the notion that the effects of motivational KR [knowledge of results] depend upon the goals S sets in response to such knowledge (Locke et al., 1968:482)." Most of the studies reviewed failed to separate feedback effects from aspiration level effects. When the two variables were separated, no effect of feedback on performance was found "over and above that which can be attributed to differential goal-setting (1968:482)." Indeed, in those studies which treated subjects with feedback on more than one performance dimension, performance improved on only those dimensions for which subjects set personal improvement goals in response to such feedback. Thus, Locke et al. have argued, based on these data, that feedback affects performance only to the extent to which subjects set higher performance goals in response to such feedback.

Following this review, Locke, Cartledge and Knerr (1970) carried out a series of five laboratory experiments designed to investigate the effects of satisfaction with one's past performance on future aspiration levels and performance. The investigators posited that satisfaction with one's past performance (based on feedback of results) would lead subjects to maintain their previous goal levels on future trials, while dissatisfaction with past performance would cause subjects to set new goals to improve performance. In general, supporting evidence was demonstrated for this hypothesis. Results were not entirely consistent, however. In some cases, it was found that

anticipated (not past) satisfaction based on past results was the best predictor of subsequent aspiration level and performance.

Building upon Locke's hypothesis, Cummings, Schwab and Rosen (1971) carried out a laboratory experiment aimed at testing two basic hypotheses: (1) future goal levels set by individuals would increase as a function of previous performance levels, and (2) when previous performance effects were held constant, future goal levels set by subjects would increase as a function of the amount and accuracy of feedback. General support was found for both hypotheses. Cummings et al. concluded from these findings that providing employees with incomplete or erroneously low feedback (on the assumption that it would motivate them to perform better) may actually result in poorer performance than providing no feedback at all! Maximal performance could only be achieved, according to these findings, when employees are provided with accurate feedback on performance based on clear and publicized standards.

In addition to these laboratory experiments, data from three field studies are also relevant to the relation of feedback to performance. In two unrelated field studies of public utility employees, Hackman and Lawler (1971) and Steers (1973) found no relation between the amount of feedback provided on the job and resulting effort or performance. The latter study did find, however, that feedback was significantly and positively related to effort and performance for those subjects who had high needs

for achievement, affiliation and independence; no such relation was found for subjects rated low on these three needs. Finally, Braunstein, Klein and Pachla (1973) found a positive relation between feedback and classroom performance in a well-controlled field experiment among university professors.

When these findings are jointly considered, fairly consistent evidence emerges that something more complex than a simple positive relationship exists between feedback and performance. An argument can be made, based on these findings, that feedback is modified by several factors (e.g., subject's resulting level of aspiration, personality traits, etc.) as it affects subsequent performance on the job. Once again, individual differences appear to have an important influence on the impact of a task goal attribute as it relates to motivation to perform.

Peer Competition for Goal Attainment

It has been argued by Likert (1967) and Locke (1968) that individuals tend to strive harder to improve task performance when a norm of high achievement exists within the work group. Similarly, Steiner (1972:135) posits that "an individual who works in the presence of his competitors may be more highly motivated to do whatever is required [for task performance] than one who works alone and does not realize that his productivity will be compared with that of others." Following this line of reasoning, a logical case can be made that an employee who perceives a competitive atmosphere among his fellow workers with

respect to performance would be motivated to put forth his utmost to come out ahead in such competition. Where competitive forces are not perceived to be the norm, we might not expect so great an effort.

Several investigations exist which specifically address the question of the relation between peer competition and performance; however, the majority looked at competition-performance relationships irrespective of goal-setting considerations. Both the group performance studies and the individual performance studies have yielded conflicting results on this issue.

The group performance data is almost exclusively derived from laboratory experimentation. Peer competition treatments (as opposed to peer cooperation treatments) were typically simulated through the use of differential rewarding techniques for the subjects involved. The results of six early investigations pointed to a positive relationship between peer competition and performance on laboratory tasks (de Charms, 1957; Forlano, 1932; Maller, 1929; Phillips, 1954; Sims, 1929; Sorokin, Tanquist, Parten & Zimmerman, 1930), while nine studies found negative relationships (Deutsch, 1949; Grossack, 1954; Hammond & Goldman, 1961; Mintz, 1951; Moede, 1920; Philp, 1940; Smith, Madden & Sobol, 1957; Whittemore, 1924). In an attempt to resolve these contradictory group findings, Miller and Hamblin (1963) studied the potential moderating effects of "task interdependence" on the competition-performance relationship. Their results indicated a

strong negative relationship between competitive atmosphere and productivity only when there was a high degree of task interdependence among group members; where low task interdependence existed, a weak positive relation was found between peer competition and productivity. In other words, the nature of the situation (in this case, the degree of task interrelatedness) was seen as playing an important role in the determination of the effects of peer competition on performance.

A similar situation exists concerning those studies investigating competitive effects on individual performance. Three laboratory studies concluded that experimental manipulations aimed at creating peer competition for task accomplishment tended to yield higher individual performance levels than manipulations aimed at minimizing such competition (Hurlock, 1927; Moede, reported in Dashiell, 1935; Wickens, 1942). However, Dashiell (1930) concluded, after a series of laboratory experiments, that competitive attitudes were primarily responsible for more rapid but less accurate task completion by subjects. In other words, quality suffered in order that quantity could be maximized. This latter finding is consistent with Etzioni's contention that pressure for results stresses the more measurable goals (i.e., quantity) at the expense of the more intangible qualitative goals. Finally, in a more recent field investigation by Steers (1973), the degree of perceived peer competition for goal attainment was found to be unrelated to independent measures

of either employee effort or performance, although it was positively related to job involvement.

The results of these investigations indicate that there is no simple relationship between the degree of peer competition and employee performance. Instead, it appears that several additional factors would need to be taken into account when explaining this association. First, such a relationship may depend upon the nature of the technology required for production. If Dashiell's (1930) findings are correct, we would expect peer competition to be a more effective vehicle for increased performance only where product quality either was not a consideration or was controlled externally. If craftsmanship was a central concern in output, such competition might have detrimental effects. Similarly, the findings of Miller and Hamblin (1963) indicate that the degree of required task interrelatedness among workers may also affect the performance implications of a competitive atmosphere. Second, serious consideration must be given to the reward system being employed in the work environment. It would appear that peer competition for goal attainment might be more strongly related to performance where a zero-sum game situation exists vis-a-vis rewards or payoffs. There can be only <u>one</u> winner in a race, for example. Where this is not the case, as it probably would not be in the majority of actual field situations, we would expect the effects of peer competition on performance to be greatly diminished.

Goal Difficulty

The most heavily researched area in the goal-setting literature centers around the impact of goal difficulty on task performance. The basic theoretical concept here is the contention that, at least up to some point, increasing goal difficulty increases the perceived challenge of a goal which, in turn, increases the amount of effort that is expended for goal-attainment. This notion has its roots in several theories of motivation (Atkinson, 1958, 1964; March & Simon, 1958).

The earliest research in this area was carried out in the laboratory by Mace (1935). Using performance on psychomotor tasks as an evaluation criterion, Mace discovered that subjects who were assigned a goal of improving performance 25% per day demonstrated faster improvement than their counterparts assigned an improvement goal of only 5%. Somewhat surprisingly, most of the remaining laboratory work in the area of goal difficulty followed closely the general format and design of Mace. Experiments have typically been designed in which one group was assigned difficult goals, while the other group was assigned easy goals. Sometimes a middle group was also used and assigned goals of medium difficulty. The tasks studied under this approach have included a simulated bargaining situation (Siegal & Fouraker, 1960), pursuit motor tasks (Eason & White, 1971), letter cancellation exercises (Dey & Kaur, 1965), and others. The findings consistently point to the resulting increased performance where higher goals have been set. Little attempt has been made, however, to explain <u>why</u> goal difficulty is so important in performance.

Locke and his associates have carried out a series of laboratory experiments aimed at answering this central question. Their research was essentially based on Ryan's (1958, 1970) approach to motivation, which posits that a considerable portion of human behavior is controlled by conscious intentions on the part of an individual. The argument here is that if goals serve to regulate performance, difficult goals should produce higher performance than easy goals, assuming they are accepted. Some 15 experiments relating goal difficulty to performance were carried out, using a variety of laboratory tasks primarily on small student samples (Locke, 1966b, 1967a; Locke & Bryan, 1966b, 1967, 1969a, 1969b; Locke, Bryan & Kendall, 1968). In all studies, a strong and consistent relationship was found between the difficulty of the goal and performance, assuming the goals were accepted. Where goal acceptance was not present, no such relation appeared. In a summary analysis of 12 of these 15 studies (not including Locke & Bryan, 1969a, 1969b), Locke (1968) pointed to a .78 rank-order correlation between increased goal difficulty (when goals were accepted) and performance.

Locke (1968) concludes from these experiments that such findings "flatly contradict" Atkinson's (1958) contention that effort and performance are greatest at a .5 probability of success level. Instead of Atkinson's bell-shaped difficulty-performance curve, Locke proposes a monitonically increasing linear function: the greater the difficulty, the greater the performance. This apparent contradiction between Atkinson and Locke has several

possible explanations, however. One such explanation centers around the notion of a "zone of impossibility" on task goals. Atkinson (1958) assigned subjects goals of varying difficulty but failed to ascertain whether or not subjects were actually trying for such goals. In other words, goal acceptance was not measured. Thus, under Atkinson's model, as the probability of success declined from 1.0 toward 0.5, effort and performance would supposedly increase. However, when extremely difficult (or impossible) goals were assigned, and as the subjective probability of success declined from 0.5 toward 0.0, effort and performance would decrease. Hence, the bell-shaped curve. Locke, on the other hand, attempted to solicit measures of goal acceptance from subjects. Where subjects perceived goals to be extremely difficult or impossible and did not make a sincere effort, Locke categorized such goals as impossible and excluded them from consideration in his model. Such goals were therefore not reflected in his linear curve. In other words, part of this seeming contradiction between Atkinson and Locke is that Locke is defining the right half of Atkinson's bell-shaped curve as either approaching or lying within a zone of impossibility, and thus it is not considered part of the goal difficulty-performance relation. The remaining left half of Atkinson's curve closely resembles Locke's increasing linear function.

An original contribution to our understanding of the relationship between goal difficulty and performance has been

set forth by Stedry (1960). Goals of varying difficulty were assigned to experimental groups during algebraic problem-solving exercises. Some groups were asked to set their own personal levels of aspiration on the tasks before the experimenter assigned goals, while others set personal goals after being assigned goals. It was found that assigned difficult goals resulted in better performance than assigned easy goals only when such goals were set by the experimenter before subjects set their own personal goals for the tasks. If the personal goals were set first, subjects tended to reject the experimentally assigned goals as too difficult (or impossible) and failed to make a sincere effort. These findings may have significant ramifications for the design of participative decision-making programs. It would appear, based on these findings, that higher group performance could result where the supervisor takes the initiative in group discussions and sets forth his production targets as a basis for discussion. The resulting group goal decisions should theoretically be higher than if the supervisor first asked for worker opinions as to goals and then offered his own.

A related aspect of goal difficulty is the amount of time individuals are allowed to complete a task. An easy goal can become quite difficult if subjects are constrained too tightly on time limits. Or, conversely, it may take longer to complete relatively easy tasks when generous time limits are allowed than when tight limits are imposed. This second problem, an adaptation

of Parkinson's law applied to the goal-setting process, has been investigated in two related laboratory experiments (Bryan & Locke, 1967b). It was consistently found in these studies that task completion (of equal quality) took longer for groups having lengthier time limits and that those groups allowed less time set higher output goals per equivalent time period. Thus, once again, rate of work was apparently regulated to fill the time allotted for the task.

Turning now to a discussion of field investigations of goal difficulty, one group study (Zander & Newcomb, 1967) and two individual studies (Battle, 1966; Uhlinger & Stephens, 1960) found that when subjects raised their task goals over previous performance levels, resulting performance was significantly higher than when they maintained their past goals or set lower goals. Zander and Newcomb went further to point out an important exception to this trend. When subjects had consistently failed to attain their previous goals, no relation was found between goal level and performance. This latter finding raises an important question concerning the sustaining power of continually setting difficult goals (see also: Miller, 1968). Most of the laboratory experiments which purported to demonstrate that more difficult goals generally led to better performance than easy goals were carried out over blocks of trials typically averaging 20 minutes or less in duration. It is possible that the strong consistent relationship between increased goal difficulty and

increased performance resulted in part because trials were not of sufficient duration to allow for the impact on the subject of continual negative feedback (i.e., goal failure). The Zander and Newcomb findings are indicative of a potential absence of such sustaining power where goal-attainment is seldom (or never) accomplished. Certainly more field research is necessary here to overcome this "duration of effects" problem inherent in many of the laboratory studies and to clarify the impact of increased goal difficulty over time. It may be that explicitly setting difficult goals is only functional for an organization on a periodic basis, and then only when a series of easier goals have been set and successfully accomplished in the intervening period. Such a practice may serve to build up goal credibility in the employee's mind so he does not immediately dismiss new goals as impossible.

A general assumption underlying the research on goal difficulty reviewed to this point is that individuals pursue a unitary goal (e.g., increase productivity). As pointed out by Etzioni (1964) and Hall (1972), one of the problems of securing accurate measures in the "real world" of either goal difficulty or performance is that an employee's goals are usually several in number and often conflicting in nature. Thus, productivity may only be increased at the expense of output quality (also a goal). One valuable field experiment designed to account for such complexity has been carried out by Stedry and Kay (1964,

1966). The theoretical foundation for this study was elaborated in Charnes and Stedry (1964) in which it was posited that a "quasi-rational" goal recipient would allocate his effort so as to maximize accomplishment of the summation of his assigned goals. In the absence of specified weights, quasi-rational behavior would yield effort primarily toward those goals which had a reasonable probability of success, although more difficult goals within this set might receive increased effort. Following this argument, increasing the difficulty of a particular goal already receiving effort should result in increased effort (and probably increased performance) in that area up to a point. Beyond a certain point, however, increasing goal difficulty would drive the individual away from this goal and toward his remaining goals, resulting in poorer performance in the difficult goal area. Thus, assuming a multi-goal framework, this hypothesis posits that effort on any particular goal will be roughly related to goal difficulty according to a bell-shaped curve much like the one proposed by Atkinson (1958).

Following this theoretical framework, Stedry and Kay (1966) experimentally manipulated the level of difficulty of two goals (output and rework costs) for several work groups. An analysis of the data revealed that those goals which were perceived as challenging (moderately difficult) resulted in significantly greater performance than goals perceived as impossible. However, the hypothesis that moderately difficult

goals would result in higher performance than easy goals was not supported by the data. An ex post analysis did reveal, however, that difficult goals resulted in greater extremes of behavior than easy goals; they were usually associated with either very good or very poor performance. This finding suggests the possibility of potential intervening variables (e.g., perceived instrumentality of goal attainment for desired rewards) at work which may tend to stimulate either greater or lesser effort depending upon one's perceptions of the goal. A further finding of the Stedry and Kay (1964) study was that foremen who were assigned more difficult goals generally sought to discover causes underlying poor performance. Instead of simply pushing subordinates to work harder, they appeared to engage in some form of creative behavior with resulting improvements in performance. Similar findings have been demonstrated by Chaney (1969). These findings suggest a further implication of setting somewhat difficult goals; i.e., their potential stimulating effects in the direction of increased problem analysis and creativity on the job.

In summary, the findings of the field studies on goal difficulty are not so optimistic or clear-cut as the laboratory experiments with respect to the benefits of assigning difficult task goals. While generally supportive of the notion that more difficult goals (up to some point) may lead to increased performance, significant exceptions to this trend are noted. It

has been shown that such goals may lose their sustaining power over time when they are not properly reinforced. Past failures on previous goals may negate the effects of setting difficult goals. Moreover, perceived impossibility of goal-attainment may also stifle employee effort and resultant performance. Finally, at least one study found no performance differences between easy goals and moderately difficult ones.

Goal Acceptance

Goal acceptance represents the degree to which a subject agrees with and accepts his task goals in preference to other potential goals. Such a definition goes beyond mere compliance behavior by a subject who may disagree with such goals; instead, it includes a strong positive attitude toward such goals which may be likened to goal ownership. In this sense, goal acceptance is viewed in terms of a congruence between assigned task goals and individual aspiration level with respect to these goals.

Much of the research on goal-setting has looked simply at the relation between externally set goals and various criterion variables (e.g., performance). A major drawback with this technique is the implicit assumption that the issuance of goals or instructions can be equated with the personal goals (levels of aspiration) set by an individual in response to the assigned goals. In other words, such studies have assumed that the task goals were accepted by the subjects. If, as has been suggested by Ryan (1958, 1970) and Locke (1968), level of aspiration

significantly affects motivational force to perform, then care must be taken in both theory and research to draw a clear distinction between externally-assigned task goals and personal aspiration levels on these goals. Indeed, it is possible that many of the somewhat conflicting results in the goal-setting literature can be explained, in part, by the inappropriate equating of these two variables.

Empirical evidence appears to support such a conclusion. For example, Stedry (1960) found in a series of laboratory experiments that subjects tended to reject externally assigned goals when they were issued after subjects had set their own aspiration level. Moreover, Vroom (1960), who found a positive relation between an aggregate measure of participation in decision-making and performance, posited that such participation may have resulted in increased ego involvement in task outcomes on the part of employees. This finding suggests that participation increased subject acceptance or ownership of the goals. Similar results have been demonstrated by French et al. (1966); high participation subjects in this study showed significantly higher acceptance of task goals than low participation subjects. Apparently, participation served to adjust aspiration level toward that of the task goals. While it can be inferred from the French et al. data that such goal acceptance probably led to greater effort and goal attainment, such an assertion was not specifically tested.

Much of the research carried out by Locke and his associates has used aspiration level as the basic unit of analysis, instead of task goals. In fact, Locke's theory (1968; Locke et al., 1970) suggests that task goals will affect behavior only to the extent to which they are accepted by subjects in the form of personal aspiration levels. He contends (1968:174) that "it is not enough to know that an order or request was made; one has to know whether or not the individual heard it and understood it, how he appraised it, and what he decided to do about it before its effects on his behavior can be predicted and explained." Locke offers considerable laboratory evidence in support of such a contention. Post-experimental interviews revealed that in many cases subjects did not accept their assigned goals. In fact, it was only after subjects were reclassified according to the personal goals they actually worked toward (aspiration level) that a clear relation developed between goals and performance (see, e.g., Locke & Bryan, 1966b, 1967; Locke, Bryan & Kendall, 1968).

Goal acceptance, then, defined in terms of a congruence between assigned task goals and personal aspiration levels on such goals, apparently does represent an important potential intervening variable between goals and performance. The evidence to date is somewhat sketchy, but it appears powerful enough to demonstrate that assigned task goals cannot always be assumed to be accepted. Future research should give further

consideration to the impact of such acceptance on goal attainment. If the contention is correct that motivation to perform is in large measure a function of aspiration level, then goal acceptance may be a much more effective predictor of performance than goal-setting alone. Certainly, the issue of goal acceptance is an important one that must be clarified before a comprehensive theory of goal-setting can be achieved.

Discussion and Conclusions

It has been argued throughout this review that the simple knowledge that goal-setting "works" is insufficient for our understanding of the goal-setting process; we must know how and why it works. Toward this end, some 80 empirical studies relating to six factor-analytically derived attributes of task goals were examined. Based on this review, several specific conclusions can be drawn.

To begin with, increases in goal specificity were found to be consistently and positively related to performance across both field and laboratory investigations. We would expect such a finding in view of the centrality of goal specification in formalized goal-setting programs; in fact, goal specificity may in many ways be considered a defining characteristic of such programs. In addition, the available research indicates that acceptance of task goals is also strongly and positively related to performance. However, this conclusion rests on only a few empirical studies, and final judgment must await further investigation.

Less consistent findings have been demonstrated for the three attributes of goal difficulty, participation in goal-setting, and feedback on goal effort. While the majority of findings concerning each of these attributes tends to indicate positive relationships with performance, a number of important exceptions exist. For example, while the laboratory studies of goal difficulty consistently point to a positive relationship with performance, the field studies generally indicate either more complex or null relationships. Moreover, many investigations of these three attributes found important intervening variables which influenced performance relationships. Thus, while the tendencies for all three task goal attributes are in the direction of positive associations with performance, no definitive relationships were found. Finally, no consistent relationship emerged between the degree of peer competition and employee performance, again suggesting the existence of important intervening variables which influence the relationship.

From these data, a possible case could be made that the "key" to successful goal-setting programs in work situations, such as MBO, lies primarily in discovering those specific task goal attributes most closely associated with performance and then "loading" an employee's task goals with these attributes. This approach has often been taken in some of the more prescriptive literature on goal-setting. However, such actions by themselves appear less than desirable for at least two

reasons. First, the singular attention to the role of task goal attributes in performance ignores several additional factors which have been shown to have an important bearing on performance. Second, and perhaps more important from a psychological standpoint, such action really tells us very little about the dynamics behind the effects of goal-setting. That is, knowing that goal specificity, for example, is consistently related to task performance does not explain the process by which it affects such performance.

A more comprehensive analysis of the role of task goal attributes in employee performance can be derived by analyzing from a theoretical standpoint the psychological processes involved in such activities. The question posed here, then, is how various attributes in a goal-setting program affect an individual's motivational force to perform. We shall consider this question by viewing the effects of goal-setting programs within an Expectancy/Valence motivational framework. While many theories of motivation exist, the Expectancy/Valence model has been selected as a framework for analysis for several reasons. First, it represents a reasonably well-developed and comprehensive approach to explaining human behavior at work. It attempts to account for important variables not only within the individual but also within the work environment in which he finds himself. Second, a fair amount of research has begun to emerge which generally provides some support for the effectiveness of

this model in explaining the decision to perform at a given level (Campbell et al., 1970; Galbraith & Cummings, 1967; Georgopoulos, Mahoney, & Jones, 1957; Graen, 1969; Heneman & Schwab, 1972; Mitchell & Biglan, 1971; Porter & Lawler, 1968; Vroom, 1964).

In simplified form, Expectancy/Valence theory posits that the motivational force of an individual to perform is a multiplicative function of his subjective probability that effort will lead to the receipt of certain rewards and the valence he places on those rewards. For example, if an individual really believes that increasing his effort will lead to the receipt of a pay raise, and if he values having this additional income, we would expect his effort on the job to be high. (It should be noted that, while more complex elaborations of this theory exist, this simplified form will suffice for our purposes here.)

When the major findings of this review are placed within such a framework, it becomes possible to understand more fully--at least on a theoretical level--why certain task goal attributes can play such important roles at times in the determination of employee performance under a goal-setting system. Under this conceptualization, it would appear that the various task goal attributes affect performance because--and to the extent that--they affect the components comprising the motivational force equation. In other words, varying the amounts of certain of these attributes on the job may serve to alter an employee's

expectancies, valences, or both, thereby affecting his motivation to perform. Three brief examples should serve to clarify this point.

First, consider the example of goal specificity. Giving an employee a set of goals that are highly specific in nature should allow him to know more precisely what is expected of him on the job. Such reduced search behavior should, in turn, make it easier for the individual to see the relationship between effort and resulting performance (and presumably rewards), thus clarifying his level of expectations on that job.

A second example can be seen by examining the potential motivational effects of allowing employee participation in goal-setting. It is possible that such participation may at times affect the valence an individual places on goal attainment. If an employee is allowed to play a central role in the determination of his task goals, he may become more ego-involved in the outcome of those goals (Vroom, 1960) and place a higher value on goal attainment. Thus, assuming constant expectancies, increasing an employee's valence for potential rewards should lead to increased effort. We would expect, however, that these participation effects would be affected at least to some extent by the personality traits exhibited by the employee. For example, an employee with a high need for achievement might be more prone to become ego-involved in performance outcomes (and increase his valences accordingly) when allowed greater participation than someone who had a low need for achievement.

Finally, take the more complex example of peer competition for goal attainment. Where a situation approaches a zero-sum game (i.e., where there can be only one "winner"), we might expect a competitive atmosphere to lead to somewhat increased valences concerning outcomes, while at the same time lowering certain expectancy levels. A salesman, for instance, generally realizes that there are attractive benefits (e.g., bonuses, etc.) for ranking first among his peers in sales and that, simultaneously, there are undesirable penalties for ranking last (e.g., the possibility of termination). Under such circumstances, we would expect such competitive effects to lead to an increase in the valence attached to the available (and scarce) rewards. However, realization that one's peers are probably also putting forth maximum effort to gain such desirable rewards (and avoid such severe penalties) may tend to reduce one's expectancies that increased effort will, in fact, lead to increased performance and rewards. We may thus have a situation where increased peer competition would lead to increased valences, but the impact of such a change may be largely negated by a concommitant reduction in expectancies.

On the other hand, when the situation tends toward a non-zero-sum game (i.e., where there can be more than one "winner"), there is little reason to believe that perceived competitive effects would have a substantial influence on either expectancies or valences. The removal of both the extreme positive and the

extreme negative consequences in the above example would tend to reduce in large measure the valence attached to goal attainment in and of itself. Subjective perceptions of the ease of goal attainment (expectancies) may be somewhat higher, however, because the individual may not perceive his peers as trying quite so hard, thereby making relative performance somewhat easier. Thus, while certain expectancies here may be somewhat higher, the corresponding reward valences would probably tend to be lower, again cancelling out any substantive gains in employee effort.

We have attempted here to provide three hypothetical examples of how goal-setting effects can be better understood by placing them within a specific motivational framework. Other examples could be provided. It is important to realize, however, that these examples are conjectural in nature and are meant simply to be illustrative of how a framework like the Expectancy/Valence model could be utilized to learn more about the processes behind goal-setting dynamics. It is argued here that one explanation for such a process is that variations in the attributes of an employee's task goals tend to affect effort and performance to the extent that they alter his level of path-goal expectancies or the valences he attaches to expected outcomes on the job. More specific descriptions of such a process awaits further investigation.

Viewing formalized goal-setting programs, like MBO, within such a motivational model leads to several fairly specific implications for the practicing manager. To begin with, it appears as though greater consideration should be given in the design and application of such programs to the nature of the particular attributes which characterize an employee's task goals. For example, it was generally found in the above review that goal specificity was positively associated with task performance. Following this finding, greater attention could be paid in the formulation of task goals to insuring that such goals are clearly specified and well understood by the employee. Similarly, increased effort on the part of management could be directed toward securing employee acceptance of these goals in the form of personal levels of aspiration. In short, greater care should be given to insuring that the final goal-setting program design is consistent with existing knowledge concerning the performance implications of the various task goal attributes. Such a practice has apparently not been the case in many existing MBO-type programs (Carroll & Tosi, 1973; Raia, 1965, 1966).

In addition, increased attention could be paid to drawing a suitable linkage between existing programs and relevant motivational theories of work behavior. For example, consideration should be directed toward a better understanding of the consequences to be obtained from a clarification for employees of the relationship between task performance and potential rewards.

Moreover, increased attention could be focused on improving our knowledge as to which rewards employees truly value. If employees consistently attach a low valence to the traditional rewards offered for goal attainment, the motivational value of such rewards would tend to be less than desirable.

Third, some concern appears in order as to the potential negative attitudinal consequences which may be associated with certain aspects of goal-setting programs that could hamper program effectiveness. Some research has indicated that when goals are perceived as being far too difficult or far too rigid, the credibility of the program itself may be seriously jeopardized, leading to poor performance. Care must be taken, in other words, to insure that the general parameters of the program are fairly widely accepted by program participants.

Finally, it would appear highly desirable if management would increase their willingness to subject their MBO-type programs to continual empirical examination in an effort to monitor both attitudinal and performance consequences of such programs. Some research has demonstrated that goal-setting programs tend to lose their potency over time but little effort has been directed toward discovering why such a phenomenon occurs. A continuing monitoring system could hopefully assist in the identification of such trends and possibly point to potential remedies.

Assuming that such factors are taken into account, we would expect this increased understanding of the nature of goal-setting and of the role played by the various task goal attributes to lead to at least some improvement in program effectiveness. However, one cannot assume that variations in the nature of task goals would account solely for performance variances related to goal-setting. Sufficient evidence exists to demonstrate that several other factors must be taken into account if we are to more fully understand how level of effort is determined. For example, many studies point to the importance of certain additional situational and environmental factors (e.g., openness of communication, leadership style, etc.) in determining effort (French et al., 1966; Ivancevich, 1972; Litwin & Stringer, 1968). Moreover, characteristics unique to the individual employee must be considered. Not only have some individual difference factors (e.g., need for achievement, level of aspiration) been shown to be somewhat effective predictors of performance by themselves (Cummin, 1967; E. French, 1955, 1958a, 1958b; Locke, 1968), but such factors have also been shown to represent important modifiers of the effects of certain task goal attributes on performance (Carroll & Tosi, 1970, 1973; French et al., 1966; Steers, 1973; Vroom, 1960). These considerations must not be overlooked when attempting to understand more fully formalized goal-setting systems.

Thus, performance under goal-setting conditions appears to be a function of at least three important variables: the nature of task goals, additional situational-environmental factors, and individual differences. Certainly, only when all three factors are duly considered can a greater understanding result concerning the extent of the role played by task goals in employee performance. Such a conclusion must caution against the casual use of the ceteris paribus assumption when analyzing the performance implications of various task goal attributes. We must begin to view the role of task goal attributes within more complex frameworks which can adequately account for several additional variables which have been shown to represent important factors in employee performance. Moreover, there is a clear need to carry out these analyses within well-developed conceptualizations of the motivational process. One attempt at such a synthesis of empirical evidence with current work motivation theory has been made here, but more work is needed to test the applicability of such models to the goal-setting environment.

Finally, in addition to viewing individual performance on task goals within a motivational framework, the role of task goals must also be considered within the larger organizational context. More information is needed, for example, about the relation between task goals and organizational goals. While much theorizing exists concerning such a relationship, in point of fact the bodies of research data on these two "types" of goals

are virtually unrelated. Sound empirical investigation--as opposed to exhortative prescriptions--is needed on how (or whether) operational organizational goals become translated into employee task goals and how such a process affects employee performance. Conversely, and equally important, we need to know how (or whether) task goals impact upon organizational goals. Findings from such research should help us understand better how both types of goals affect the larger issue of organizational effectiveness.

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